```
   1 ttgcaggctg ctgggctggg gctaagggct gctcagtttc cttcagcggg gcactgggaa
  61 gcgccatggc actgcagggc atctcggtcg tggagctgtc cggcctggcc ccgggcccgt
 121 tctgtgctat ggtcctggct gacttcgggg cgcgtgtggt acgcgtggac cggcccggct
 181 cccgctacga cgtgagccgc ttgggccggg gcaagcgctc gctagtgctg gacctgaagc
 241 agccgcgggg agccgccgtg ctgcggcgtc tgtgcaagcg gtcggatgtg ctgctggagc
 301 ccttccgccg cggtgtcatg gagaaactcc agctgggccc agagattctg cagcgggaaa
 361 atccaaggct tatttatgcc aggctgagtg gatttggcca gtcaggaagc ttctgccggt
 421 tagctggcca cgatatcaac tatttggctt tgtcaggtgt tctctcaaaa attggcagaa
 481 gtggtgagaa tccgtatgcc ccgctgaatc tcctggctga ctttgctggt ggtggcctta
 541 tgtgtgcact gggcattata atggctcttt ttgaccgcac acgcactggc aagggtcagg
 601 tcattgatgc aaatatggtg gaaggaacag catatttaag ttctttctg tggaaaactc
 661 agaaatcgag tctgtgggaa gcacctcgag gacagaacat gttggatggt ggagcacctt
 721 tctatacgac ttacaggaca gcagatgggg aattcatggc tgttggagca atagaacccc
 781 agttctacga gctgctgatc aaaggacttg gactaaagtc tgatgaactt cccaatcaga
 841 tgagcatgga tgattggcca gaaatgaaga agaagtttgc agatgtattt gcaaagaaga
 901 cgaaggcaga gtggtgtcaa atctttgacg gcacagatgc ctgtgtgact ccggttctga
 961 cttttgagga ggttgttcat catgatcaca caaggaacg gggctcgttt atcaccagtg
1021 aggagcagga cgtgagcccc cgccctgcac ctctgctgtt aaacacccca gccatccctt
1081 ctttcaaaag ggatcctttc ataggagaac acactgagga gatacttgaa gaatttggat
1141 tcagccgcga agagatttat cagcttaact cagataaaat cattgaaagt aataaggtaa
1201 aagctagtct ctaacttcca ggcccacggc tcaagtgaat ttgaatactg catttacagt
1261 gtagagtaac acataacatt gtatgcatgg aaacatggag aacagtatt acagtgtcct
1321 accactctaa tcaagaaaag aattacagac tctgattcta cagtgatgat tgaattctaa
1381 aaatggttat cattagggct tttgatttat aaaactttgg gtacttatac taaattatgg
1441 tagttattct gccttccagt ttgcttgata tatttgttga tattaagatt cttgacttat
1501 attttgaatg ggttctagtg aaaaaggaat gatatattct tgaagacatc gatatacatt
1561 tatttacact cttgattcta caatgtagaa aatgaggaaa tgccacaaat tgtatggtga
1621 taaaagtcac gtgaaacaga gtgattggtt gcatccaggc cttttgtctt ggtgttcatg
1681 atctccctct aagcacattc caaactttag caacagttat cacactttgt aatttgcaaa
1741 gaaaagtttc acctgtattg aatcagaatg ccttcaactg aaaaaaacat atccaaaata
1801 atgaggaaat gtgttggctc actacgtaga gtccagaggg acagtcagtt ttagggttgc
1861 ctgtatccag taactcgggg cctgtttccc cgtgggtctc tgggctgtca gctttccttt
1921 ctccatgtgt ttgatttctc ctcaggctgg tagcaagttc tggatcttat acccaacaca
1981 cagcaacatc cagaaataaa gttct
```

FIGURE 1

MALQGISVVELSGLAPGPFCAMVLADFGARVVRVDRPGSRYDVSRLGRGKRSLVLDLKQPRGAAVLRRLCK
RSDVLLEPFRRGVMEKLQLGPEILQRENPRLIYARLSGFGQSGSFCRLAGHDINYLALSGVLSKIGRSGEN
PYAPLNLLADFAGGGLMCALGIIMALFDRTRTGKGQVIDANMVEGTAYLSSFLWKTQKSSLWEAPRGQNML
DGGAPFYTTYRTADGEFMAVGAIEPQFYELLIKGLGLKSDELPNQMSMDDWPEMKKKFADVFAKKTKAEWC
QIFDGTDACVTPVLTFEEVVHHDHNKERGSFITSEEQDVSPRPAPLLLNTPAIPSFKRDPFIGEHTEEILE
EFGFSREEIYQLNSDKIIESNKVKASL

FIG. 3

SV1 (AMACR Isoform 1; >FMhxm_44226FL01)
GGGCGCCGGGATTGGGAGGGCTTCTTGCAGGCTGCTGGGCTGGGGCTAAG
GGCTGCTCAGTTTCCTTCAGCGGGGCACTGGGAAGCGCCATGGCACTGCA
GGGCATCTCGGTCGTGGAGCTGTCCGGCCTGGCCCCGGGCCCGTTCTGTG
CTATGGTCCTGGCTGACTTCGGGGCGCGTGTGGTACGCGTGGACCGGCCC
GGCTCCCGCTACGACGTGAGCCGCTTGGGCCGGGGCAAGCGCTCGCTAGT
GCTGGACCTGAAGCAGCCGCGGGGAGCCGCCGTGCTGCGGCGTCTGTGCA
AGCGGTCGGATGTGCTGCTGGAGCCCTTCCGCCGCGGTGTCATGGAGAAA
CTCCAGCTGGGCCCAGAGATTCTGCAGCGGGAAAATCCAAGGCTTATTTA
TGCCAGGCTGAGTGGATTTGGCCAGTCAGGAAGCTTCTGCCGGTTAGCTG
GCCACGATATCAACTATTTGGCTTTGTCAGGTGTTCTCTCAAAAATTGGC
AGAAGTGGTGAGAATCCGTATGCCCCGCTGAATCTCCTGGCTGACTTTGC
TGGTGGTGGCCTTATGTGTGCACTGGGCATTATAATGGCTCTTTTTGACC
GCACACGCACTGGCAAGGGTCAGGTCATTGATGCAAATATGGTGGAAGGA
ACAGCATATTTAAGTTCTTTTCTGTGGAAAACTCAGAAATCGAGTCTGTG
GGAAGCACCTCGAGGACAGAACATGTTGGATGGTGGAGCACCTTTCTATA
CGACTTACAGGACAGCAGATGGGGAATTCATGGCTGTTGGAGCAATAGAA
CCCCAGTTCTACGAGCTGCTGATCAAAGGACTTGGACTAAAGTCTGATGA
ACTTCCCAATCAGATGAGCATGGATGATTGGCCAGAAATGAAGAAGAAGT
TTGCAGATGTATTTGCAAAGAAGACGAAGGCAGAGTGGTGTCAAATCTTT
GACGGCACAGATGCCTGTGTGACTCCGGTTCTGACTTTTGAGGAGGTTGT
TCATCATGATCACAACAAGGAACGGGGCTCGTTATCACCAGTGAGGAGC
AGGACGTGAGCCCCCGCCCTGCACCTCTGCTGTTAAACACCCCAGCCATC
CCTTCTTTCAAAAGGGATCCTTTCATAGGAGAACACACTGAGGAGATACT
TGAAGAATTTGGATTCAGCCGCGAAGAGATTTATCAGCTTAACTCAGATA
AAATCATTGAAAGTAATAAGGTAAAAGCTAGTCTCTAACTTCCAGGCCCA
CGGCTCAAGTGAATTTGAATACTGCATTTACAGTGTAGAGTAACACATAA
CATTGTATGCATGGAAACATGGAGGAACAGTATTACAGTGTCCTACCACT
CTAATCAAGAAAAGAATTACAGACTCTGATTCTACAGTGATGATTGAATT
CTAAAAATGGTTATCATTAGGGCTTTTGATTTATAAAACTTTGGGTACTT
ATACTAAATTATGGTAGTTATTCTGCCTTCCAGTTTGCTTGATATATTTG
TTGATATTAAGATTCTTGACTTATATTTTGAATGGGTTCTAGTGAAAAAG
GAATGATATATTCTTGAAGACATCGATATACATTTATTTACACTCTTGAT
TCTACAATGTAGAAAATGAGGAAATGCCACAAATTGTATGGTGATAAAAG
TCACGTGAAACAGAGTGATTGGTTGCATCCAGGCCTTTTGTCTTGGTGTT
CATGATCTCCCTCTAAGCACATTCCAAACTTTAGCAACAGTTATCACACT
TTGTAATTTGCAAAGAAAAGTTTCACCTGTATTGAATCAGAATGCCTTCA
ACTGAAAAAAACATATCCAAAATAATGAGGAAATGTGTTGGCTCACTACG
TAGAGTCCAGAGGGACAGTCAGTTTTAGGGTTGCCTGTATCCAGTAACTC
GGGGCCTGTTTCCCCGTGGGTCTCTGGGCTGTCAGCTTTCCTTTCTCCAT
GTGTTTGATTTCTCCTCAGGCTGGTAGCAAGTTCTGGATCTTATACCCAA
CACACAGCAACATCCAGAAATAAAGATCTCAGGACCCCCCAAAAAAAAAA
AAAAAAAAAAAAAAAAAAA   (SEQ ID NO:4)

FIG. 4

SV1 (>FMhxm_44226FL01_P1)
MALQGISVVELSGLAPGPFCAMVLADFGARVVRVDRPGSRYDVSRLGRGKRSLVLDLKQP
RGAAVLRRLCKRSDVLLEPFRRGVMEKLQLGPEILQRENPRLIYARLSGFGQSGSFCRLA
GHDINYLALSGVLSKIGRSGENPYAPLNLLADFAGGGLMCALGIIMALFDRTRTGKGQVI
DANMVEGTAYLSSFLWKTQKSSLWEAPRGQNMLDGGAPFYTTYRTADGEFMAVGAIEPQF
YELLIKGLGLKSDELPNQMSMDDWPEMKKKFADVFAKKTKAEWCQIFDGTDACVTPVLTF
EEVHHDHNKERGSFITSEEQDVSPRPAPLLLNTPAIPSFKRDPFIGEHTEEILEEFGFS
REEIYQLNSDKIIESNKVKASL   (SEQ ID NO:5)

FIG. 5A

SV2 (AMACR Isoform 2; >FMhxm_44226FL02

GGGCGCCGGGATTGGGAGGGCTTCTTGCAGGCTGCTGGGCTGGGGCTAAG
GGCTGCTCAGTTTCCTTCAGCGGGGCACTGGGAAGCGCCATGGCACTGCA
GGGCATCTCGGTCGTGGAGCTGTCCGGCCTGGCCCCGGGCCCGTTCTGTG
CTATGGTCCTGGCTGACTTCGGGGCGCGTGTGGTACGCGTGGACCGGCCC
GGCTCCCGCTACGACGTGAGCCGCTTGGGCCGGGGCAAGCGCTCGCTAGT
GCTGGACCTGAAGCAGCCGCGGGGAGCCGCCGTGCTGCGGCGTCTGTGCA
AGCGGTCGGATGTGCTGCTGGAGCCCTTCCGCCGCGGTGTCATGGAGAAA
CTCCAGCTGGGCCCAGAGATTCTGCAGCGGGAAAATCCAAGGCTTATTTA
TGCCAGGCTGAGTGGATTTGGCCAGTCAGGAAGCTTCTGCCGGTTAGCTG
GCCACGATATCAACTATTTGGCTTTGTCAGGTGTTCTCTCAAAAATTGGC
AGAAGTGGTGAGAATCCGTATGCCCCGCTGAATCTCCTGGCTGACTTTGC
TGGTGGTGGCCTTATGTGTGCACTGGGCATTATAATGGCTCTTTTTGACC
GCACACGCACTGGCAAGGGTCAGGTCATTGATGCAAATATGGTGGAAGGA
ACAGCATATTTAAGTTCTTTTCTGTGGAAAACTCAGAAATCGAGTCTGTG
GGAAGCACCTCGAGGACAGAACATGTTGGATGGTGGAGCACCTTTCTATA
CGACTTACAGGACAGCAGATGGGGAATTCATGGCTGTTGGAGCAATAGAA
CCCCAGTTCTACGAGCTGCTGATCAAAGGACTTGGACTAAAGTCTGATGA
ACTTCCCAATCAGATGAGCATGGATGATTGGCCAGAAATGAAGAAGAAGT
TTGCAGATGTATTTGCAAAGAAGACGAAGGCAGAGTGGTGTCAAATCTTT
GACGGCACAGATGCCTGTGTGACTCCGGTTCTGACTTTTGAGGAGGTTGT
TCATCATGATCACAACAAGGAACGGGGCTCGTTTATCACCAGTGAGGAGC
AGGACGTGAGCCCCCGCCCTGCACCTCTGCTGTTAAACACCCCAGCCATC
CCTTCTTTCAAAAGGGATCCTTTCATAGGAGAACACACTGAGGAGATACT
TGAAGAATTTGGATTCAGCCGCGAAGAGATTTATCAGCTTAACTCAGATA
AAATCATTGAAAGTAATAAGGCTGGTAGCAAGTTCTGGATCTTATACCCA
ACACACAGCAACATCCAGAAATAAAGATCTCAGGACCCCCCAGCAAGTCG
TTTTGTGTCTCCTTGGACTGAGTTAAGTTACAAGCCTTTCTTATACCTGT
CTTTGACAAAGAAGACGGGATTGTCTTTACATAAAACCAGCCTGCTCCTG
GAGCTTCCCTGGACTCAACTTCCTAAAGGCATGTGAGGAAGGGGTAGATT
CCACAATCTAATCCGGGTGCCATCAGAGTAGAGGGAGTAGAGAATGGATG
TTGGGTAGGCCATCAATAAGGTCCATTCTGCGCAGTATCTCAACTGCCGT
TCAACAATCGCAAGAGGAAGGTGGAGCAGGTTTCTTCATCTTACAGTTGA
GAAAACAGAGACTCAGAAGGGCTTCTTAGTTCATGTTTCCCTTAGCGCCT
CAGTGATTTTTTCATGGTGGCTTAGGCCAAAAGAAATATCTAACCATTCA
ATTTATAAATAATTAGGTCCCCAACGAATTAAATATTATGTCCTACCAAC
TTATTAGCTGCTTGAAAAATATAATACACATAAATAAAAAAATATATTTT
TCATTTCTATTTCATTGTTAATCACAACTACTTACTAAGGAGATGTATGC
ACCTATTGGACACTGTGCAACTTCTCACCTGGAATGAGATTGGACACTGC
TGCCCTCATTTTCTGCTCCATGTTGGTGTCCATATAGTACTTGATTTTTT
ATCAGATGGCCTGGAAAACCCAGTCTCACAAAAATATGAAATTATCAGAA
GGATTATAGTGCAATCTTATGTTGAAGAATGAACTACCTCACTAGTAGT
TCACGTGATGTCTGACAGATGTTGAGTTTCATTGTGTTTGTGTGTTCAAA
TTTTTAAATATTCTGAGATACTCTTGTGAGGTCACTCTAATGCCCTGGGT
GCCTTGGCACAGTTTTAGAAATACCAGTTGAAAATATTTGCTCAGGAATA
TGCAACTAGGAAGGGGCAGAATCAGAATTTAAGCTTTCATATTCTAGCCT
TCAGTCTTGTTCTTCAACCATTTTTAGGAACTTTCCCATAAGGTTATGTT
TTCCAGCCCAGGCATGGAGGATCACTTGAGGCCAAGAGTTCGAGACCAGC
CTGGGGAACTTGGCTGGACCTCCGTTTCTACGAAATAAAAATAAAAAAAT
TATCCAGGTATGGTGGTGTGTGCCTGTAGTCCTATCTACTCAAGGGTGGG

FIG. 5B

GCAGGAGGATCACTTGAGCCCAGGAATTTGAGGCCACAGTGAATTAGGAT
TGCACCACTGCACTCTAGCCCAGGCAACAGAACAAGAACCTGTCTCTAAA
TAAATAAATAAAAATAATAATAATAAAAAAGATGTTTTCCCTACAAAAAA
GACTTTTCATTTGAACTCGGTCCAGCAAGGAAAATATAACCCACTCGAAG
TCTTTAAAACAGAGGAAATTTAATATAAAGAATTCCACTGGTGACGAAAG
AGCAGAGAAGCCCAGAAGATAGTGAGGCAACCCTGATAGGAACATAACTA
GGAAGCCAAGACCACTCCTATGGTTGCAGGGGTGATGGGAAAGCTGGTGT
ACTTGGACCCAGAAGCCAAAGTTGCTGCACCCACCTTGGAGACATAGACA
CTGGCAGTAATACCTCAGGGAGAAGAAAGAAATCTAGGGAAATATCCTGG
CTTCTTTCCTTCTCTCTCTCCCCTAGTCTTCCTACCAGTGTCTCCCATTA
GCCAAATCTACCTAGAAGCCAGAAAACAAGGGAACCCTGGAAATGTAGCC
CCATAAGATAAAGAGCACCAAAGGAAATAGATCTGAGCAGACAGGCAGCA
CAAAATGCAGTGTGTATGGTTTATTCACTCAGTAATTCCTTTAGCAAATG
TTTATTGAGGATCTACTAGGTGCCAGGTATCATGATACTTGCTGGGGATA
CCATAATGAACAAAACAGACCTGTTCTCCGCTCTTGAGGAAATCAAAGAC
AAACACAGGATATGGAATAAACCCAGAATTATCTCATTGTAAAATGTGTT
AAGTACCACGAGGAGAAATATCAGGGCCATCTGACACAGCTAATGATTTG
AAGAAGGGTGTGACCTGCCACCATTTTAAATCTAGTTATTTCACTCCTGA
GCTGTGTGTGTGGAAAACTTGTAGTAAAAAATAGAATGTCTATATTTATA
AAAGTTTATGAAAGATATCAATTTATTTACATTTTGACAAACTCTATG
TAATAAGGCTTTATTACTCACGGCCATGTGTGTGATCATGTGTAATAGCA
TGTGTGTATGAGAGAGAGAAGCCATATGTAATTATGTGTAATAACGTCTG
TGAGAGAGAAGCCATGTGTGTGATCATGTAAAATAACGTGTGTGAGAGAA
GCCATGTGTGTGATCGTGTAAAATAACGTGTGTGAGAAGCCGTGTGTGAT
GTGT   (SEQ ID NO:6)

FIG. 6

SV2 (>FMhXm_44226FL02_P1)

MALQGISVVELSGLAPGPFCAMVLADFGARVVRVDRPGSRYDVSRLGRGKRSLVLDLKQP
RGAAVLRRLCKRSDVLLEPFRRGVMEKLQLGPEILQRENPRLIYARLSGFGQSGSFCRLA
GHDINYLALSGVLSKIGRSGENPYAPLNLLADFAGGGLMCALGIIMALFDRTRTDKGQVI
DANMVEGTAYLSSFLWKTQKSSLWEAPRGQNMLDGGAPFYTTYRTADGEFMAVGAIEPQF
YELLIKGLGLKSDELPNQMSMDDWPEMKKKFADVFAKKTKAEWCQIFDGTDACVTPVLTF
EEVVHHDHNKERGSFITSEEQDVSPRPAPLLLNTPAIPSFKRDPFIGEHTEEILEEFGFS
REEIYQLNSDKIIESNKAGSKFWILYPTHSNIQK   (SEQ ID NO:7)

SV3 (AMACR Isoform 3; >FMhxm_44226FL03)

```
GGGCGCCGGGATTGGGAGGGCTTCTTGCAGGCTGCTGGGCTGGGGCTAAG
GGCTGCTCAGTTTCCTTCAGCGGGGCACTGGGAAGCGCCATGGCACTGCA
GGGCATCTCGGTCGTGGAGCTGTCCGGCCTGGCCCCGGGCCCGTTCTGTG
CTATGGTCCTGGCTGACTTCGGGGCGCGTGTGGTACGCGTGGACCGGCCC
GGCTCCCGCTACGACGTGAGCCGCTTGGGCCGGGGCAAGCGCTCGCTAGT
GCTGGACCTGAAGCAGCCGCGGGGAGCCGCCGTGCTGCGGCGTCTGTGCA
AGCGGTCGGATGTGCTGCTGGAGCCCTTCCGCCGCGGTGTCATGGAGAAA
CTCCAGCTGGGCCCAGAGATTCTGCAGCGGGAAAATCCAAGGCTTATTTA
TGCCAGGCTGAGTGGATTTGGCCAGTCAGGAAGCTTCTGCCGGTTAGCTG
GCCACGATATCAACTATTTGGCTTTGTCAGGTGGAAGGAACAGCATATTT
AAGTTCTTTTCTGTGGAAAACTCAGAAATCGAGTCTGTGGGAAGCACCTC
GAGGACAGAACATGTTGGATGGTGGAGCACCTTTCTATACGACTTACAGG
ACAGCAGATGGGGAATTCATGGCTGTTGGAGCAATAGAACCCCAGTTCTA
CGAGCTGCTGATCAAAGGACTTGGACTAAAGTCTGATGAACTTCCCAATC
AGATGAGCATGGATGATTGGCCAGAAATGAAGAAGAAGTTTGCAGATGTA
TTTGCAAAGAAGACGAAGGCAGAGTGGTGTCAAATCTTTGACGGCACAGA
TGCCTGTGTGACTCCGGTTCTGACTTTTGAGGAGGTTGTTCATCATGATC
ACAACAAGGAACGGGGCTCGTTTATCACCAGTGAGGAGCAGGACGTGAGC
CCCCGCCCTGCACCTCTGCTGTTAAACACCCCAGCCATCCCTTCTTTCAA
AAGGGATCCTTTCATAGGAGAACACACTGAGGAGATACTTGAAGAATTTG
GATTCAGCCGCGAAGAGATTTATCAGCTTAACTCAGATAAAATCATTGAA
AGTAATAAGGTAAAAGCTAGTCTCTAACTTCCAGGCCCACGGCTCAAGTG
AATTTGAATACTGCATTTACAGTGTAGAGTAACACATAACATTGTATGCA
TGGAAACATGGAGGAACAGTATTACAGTGTCCTACCACTCTAATCAAGAA
AAGAATTACAGACTCTGATTCTACAGTGATGATTGAATTCTAAAAATGGT
TATCATTAGGGCTTTTGATTTATAAACTTTGGGTACTTATACTAAATTA
TGGTAGTTATTCTGCCTTCCAGTTTGCTTGATATATTTGTTGATATTAAG
ATTCTTGACTTATATTTTGAATGGGTTCTAGTGAAAAAGGAATGATATAT
TCTTGAAGACATCGATATACATTTATTTACACTCTTGATTCTACAATGTA
GAAAATGAGGAAATGCCACAAATTGTATGGTGATAAAAGTCACGTGAAAC
AGAGTGATTGGTTGCATCCAGGCCTTTTGTCTTGGTGTTCATGATCTCCC
TCTAAGCACATTCCAAACTTTAGCAACAGTTATCACACTTTGTAATTTGC
AAAGAAAAGTTTCACCTGTATTGAATCAGAATGCCTTCAACTGAAAAAAA
CATATCCAAAATAATGAGGAAATGTGTTGGCTCACTACGTAGAGTCCAGA
GGGACAGTCAGTTTTAGGGTTGCCTGTATCCAGTAACTCGGGGCCTGTTT
CCCCGTGGGTCTCTGGGCTGTCAGCTTTCCTTTCTCCATGTGTTTGATTT
CTCCTCAGGCTGGTAGCAAGTTCTGGATCTTATACCCAACACACAGCAAC
ATCCAGAAATAAAGATCTCAGGACCCCCCAGCAAGTCGTTTTGTGTCTCC
TTGGACTGAGTTAAGTTACAAGCCTTTCTTATACCTGTCTTTGACAAAGA
AGACGGGATTGTCTTTACATAAAACCAGCCTGCTCCTGGAGCTTCCCTGG
ACTCAACTTCCTAAAGGCATGTGAGGAAGGGGTAGATTCCACAATCTAAT
CCGGGTGCCATCAGAGTAGAGGGAGTAGAGAATGGATGTTGGGTAGGCCA
TCAATAAGGTCCATTCTGCGCAGTATCTCAACTGCCGTTCAACAATCGCA
AGAGGAAGGTGGAGCAGGTTTCTTCATCTTACAGTTGAGAAAACAGAGAC
TCAGAAGGGCTTCTTAGTTCATGTTTCCCTTAGCGCCTCAGTGATTTTTT
CATGGTGGCTTAGGCCAAAAGAAATATCTAACCATTCAATTTATAAATAA
TTAGGTCCCCAACGAATTAAATATTATGTCCTACCAACTTATTAGCTGCT
TGAAAAATATAATACACATAAATAAAAAAATATATTTTTCATTTCTATTT
CATTGTTAATCACAACTACTTACTAAGGAGATGTATGCACCTATTGGACA
```

FIG. 7B

```
CTGTGCAACTTCTCACCTGGAATGAGATTGGACACTGCTGCCCTCATTTT
CTGCTCCATGTTGGTGTCCATATAGTACTTGATTTTTTATCAGATGGCCT
GGAAAACCCAGTCTCACAAAAATATGAAATTATCAGAAGGATTATAGTGC
AATCTTATGTTGAAAGAATGAACTACCTCACTAGTAGTTCACGTGATGTC
TGACAGATGTTGAGTTTCATTGTGTTTGTGTGTTCAAATTTTTAAATATT
CTGAGATACTCTTGTGAGGTCACTCTAATGCCCTGGGTGCCTTGGCACAG
TTTTAGAAATACCAGTTGAAAATATTTGCTCAGGAATATGCAACTAGGAA
:GGGGCAGAATCAGAATTTAAGCTTTCATATTCTAGCCTTCAGTCTTGTT
CTTCAACCATTTTTAGGAACTTTCCCATAAGGTTATGTTTTCCAGCCCAG
GCATGGAGGATCACTTGAGGCCAAGAGTTCGAGACCAGCCTGGGGAACTT
GGCTGGACCTCCGTTTCTACGAAATAAAAATAAAAAAATTATCCAGGAAA
AAAAAAAAAAAAAAAAAAAAAA    (SEQ ID NO:8)
```

FIG. 8

SV3 (>FMhxm_44226FL03_P1)

MALQGISVVELSGLAPGPFCAMVLADFGARVVRVDRPGSRYDVSRLGRGKRSLVLDLKQP
RGAAVLRRLCKRSDVLLEPFRRGVMEKLQLGPEILQRENPRLIYARLSGFGQSGSFCRLA
GHDINYLALSGGRNSIFKFFSVENSEIESVGSTSRTEHVGWWSTFLYDLQDSRWGIHGCW
SNRTPVLRAADQRTWTKV   (SEQ ID NO:9)

FIG. 9

SV4   (AMACR Isoform 4; >gi|14725916|ref|XM_043772.1| Homo
sapiens alpha-methylacyl-CoA racemase (AMACR), mRNA)

TTGCAGGCTGCTGGGCTGGGGCTAAGGGCTGCTCAGTTTCCTTCAGCGGG
GCACTGGGAAGCGCCATGGCACTGCAGGGCATCTCGGTCGTGGAGCTGTC
CGGCCTGGCCCCGGGCCCGTTCTGTGCTATGGTCCTGGCTGACTTCGGGG
CGCGTGTGGTACGCGTGGACCGGCCCGGCTCCCGCTACGACGTGAGCCGC
TTGGGCCGGGGCAAGCGCTCGCTAGTGCTGGACCTGAAGCAGCCGCGGGG
AGCCGCCGTGCTGCGGCGTCTGTGCAAGCGGTCGGATGTGCTGCTGGAGC
CCTTCCGCCGCGGTGTCATGGAGAAACTCCAGCTGGGCCCAGAGATTCTG
CAGCGGGAAAATCCAAGGCTTATTTATGCCAGGCTGAGTGGATTTGGCCA
GTCAGGAAGCTTCTGCCGGTTAGCTGGCCACGATATCAACTATTTGGCTT
TGTCAGGTGTTCTCTCAAAAATTGGCAGAAGTGGTGAGAATCCGTATGCC
CCGCTGAATCTCCTGGCTGACTTTGCTGGTGGTGGCCTTATGTGTGCACT
GGGCATTATAATGGCTCTTTTTGACCGCACACGCACTGGCAAGGGTCAGG
TCATTGATGCAAATATGGTGGAAGGAACAGCATATTTAAGTTCTTTTCTG
TGGAAAACTCAGAAATCGAGTCTGTGGGAAGCACCTCGAGGACAGAACAT
GTTGGATGGTGGAGCACCTTTCTATACGACTTACAGGACAGCAGATGGGG
AATTCATGGCTGTTGGAGCAATAGAACCCCAGTTCTACGAGCTGCTGATC
AAAGGACTTGGACTAAAGTCTGATGAACTTCCCAATCAGATGAGCATGGA
TGATTGGCCAGAAATGAAGAAGAAGTTTGCAGATGTATTTGCAAAGAAGA
CGAAGGCAGAGTGGTGTCAAATCTTTGACGGCACAGATGCCTGTGTGACT
CCGGTTCTGACTTTTGAGGAGGTTGTTCATCATGATCACAACAAGGAACG
GGGCTCGTTTATCACCAGTGAGGAGCAGGACGTGAGCCCCCGCCCTGCAC
CTCTGCTGTTAAACACCCCAGCCATCCCTTCTTTCAAAAGGGATCCTTTC
ATAGGAGAACACACTGAGGAGATACTTGAAGAATTTGGATTCAGCCGCGA
AGAGATTTATCAGCTTAACTCAGATAAAATCATTGAAAGTAATAAGGTAA
AAGCTAGTCTCTAACTTCCAGGCCCACGGCTCAAGTGAATTTGAATACTG
CATTTACAGTGTAGAGTAACACATAACATTGTATGCATGGAAACATGGAG
GAACAGTATTACAGTGTCCTACCACTCTAATCAAGAAAAGAATTACAGAC
TCTGATTCTACAGTGATGATTGAATTCTAAAAATGGTTATCATTAGGGCT
TTTGATTTATAAAACTTTGGGTACTTATACTAAATTATGGTAGTTATTCT
GCCTTCCAGTTTGCTTGATATATTTGTTGATATTAAGATTCTTGACTTAT
ATTTTGAATGGGTTCTAGTGAAAAAGGAATGATATATTCTTGAAGACATC
GATATACATTTATTTACACTCTTGATTCTACAATGTAGAAAATGAGGAAA
TGCCACAAATTGTATGGTGATAAAAGTCACGTGAAACAGAGTGATTGGTT
GCATCCAGGCCTTTTGTCTTGGTGTTCATGATCTCCCTCTAAGCACATTC
CAAACTTTAGCAACAGTTATCACACTTTGTAATTTGCAAAGAAAAGTTTC
ACCTGTATTGAATCAGAATGCCTTCAACTGAAAAAAACATATCCAAAATA
ATGAGGAAATGTGTTGGCTCACTACGTAGAGTCCAGAGGGACAGTCAGTT
TTAGGGTTGCCTGTATCCAGTAACTCGGGGCCTGTTTCCCCGTGGGTCTC
TGGGCTGTCAGCTTTCCTTTCTCCATGTGTTTGATTTCTCCTCAGGCTGG
TAGCAAGTTCTGGATCTTATACCCAACACACAGCAACATCCAGAAATAAA
GATCT (SEQ ID NO:10)

FIG. 10

SV3 (>gi|14725917|ref|XP_043772.1| alpha-methylacyl-CoA racemase [Homo sapiens])

MALQGISVVELSGLAPGPFCAMVLADFGARVVRVDRPGSRYDVSRLGRGKRSLVLDLKQP
RGAAVLRRLCKRSDVLLEPFRRGVMEKLQLGPEILQRENPRLIYARLSGFGQSGSFCRLA
GHDINYLALSGVLSKIGRSGENPYAPLNLLADFAGGGLMCALGIIMALFDRTRTGKGQVI
DANMVEGTAYLSSFLWKTQKSSLWEAPRGQNMLDGGAPFYTTYRTADGEFMAVGAIEPQF
YELLIKGLGLKSDELPNQMSMDDWPEMKKKFADVFAKKTKAEWCQIFDGTDACVTPVLTF
EEVVHHDHNKERGSFITSEEQDVSPRPAPLLLNTPAIPSFKRDPFIGEHTEEILEEFGFS
REEIYQLNSDKIIESNKVKASL (SEQ ID NO:11)

1) normal prostate
2) prostate adenocarcinoma
3) prostate adenocarcinoma
4) lymph node met (prost)
5) liver met (prost)
6) liver met (prost)

7) normal colon
8) colon adenocarcinoma
9) liver met (colon)
10) normal liver
11) normal kidney
12) normal kidney
13) normal brain
14) normal muscle
15) normal muscle

ML 185

ML 186
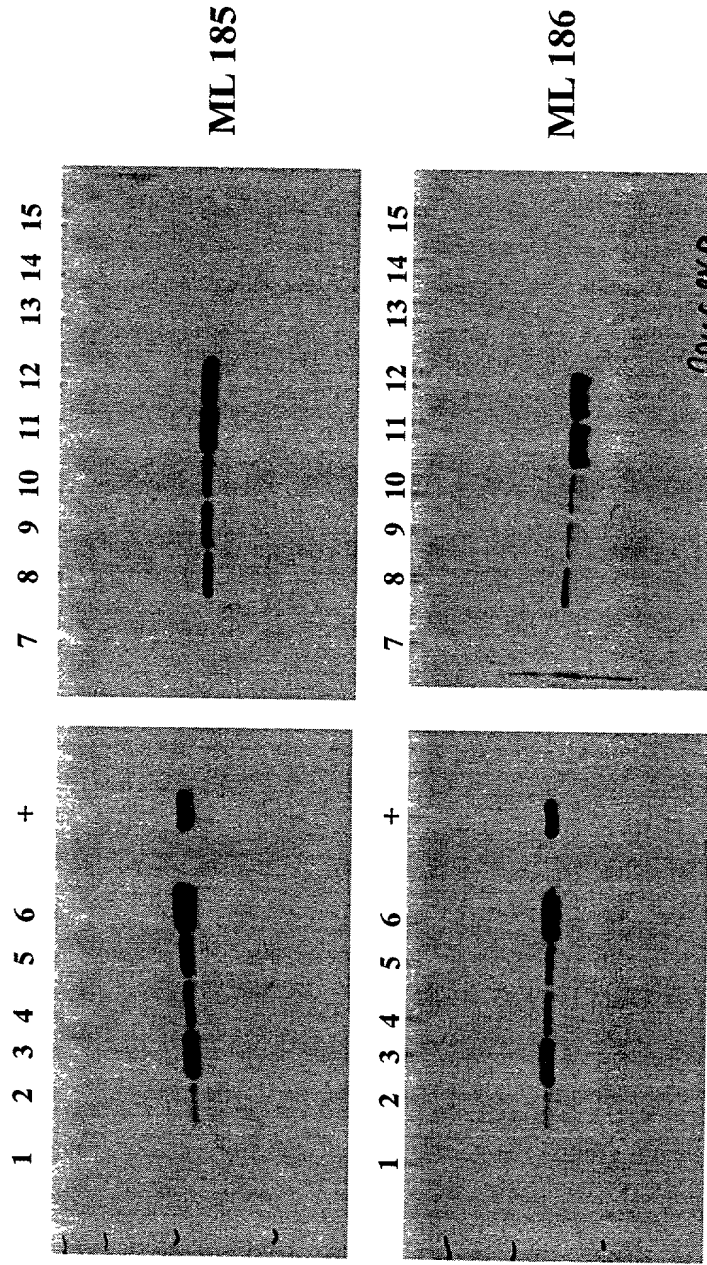
FIG. 11

FIG. 12

Racemace splice variants identified by sequencing of IMAGE clones
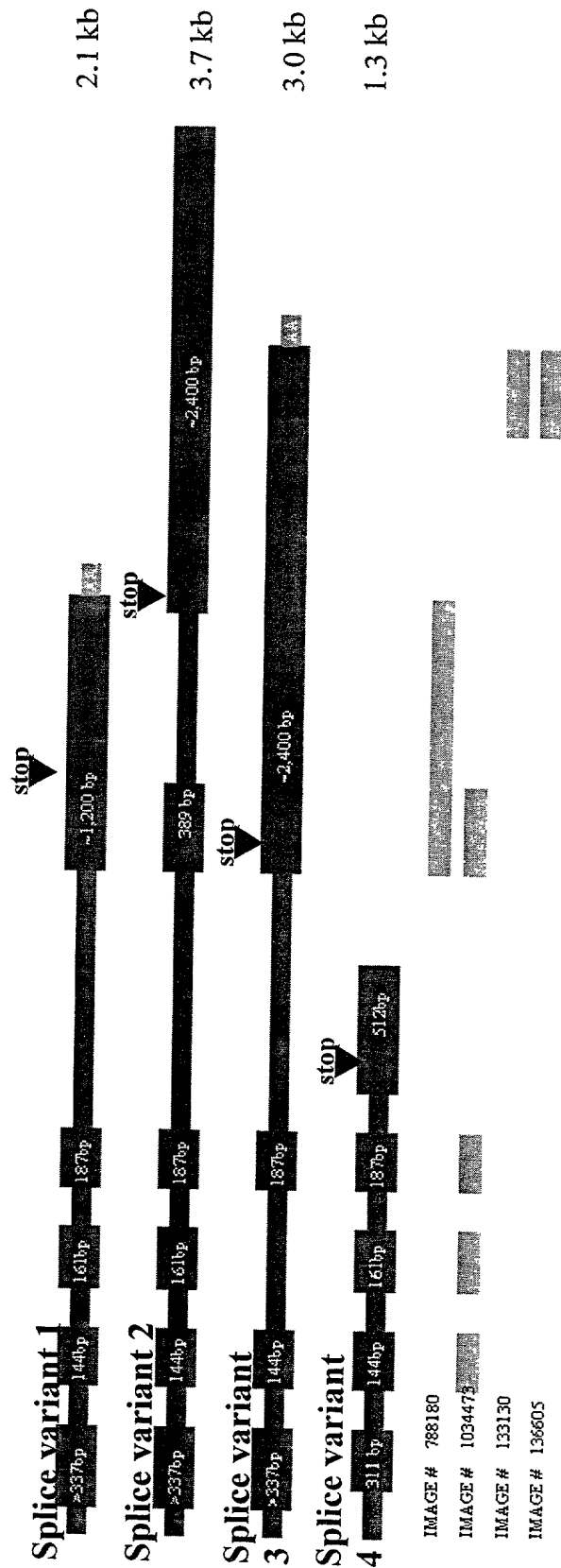
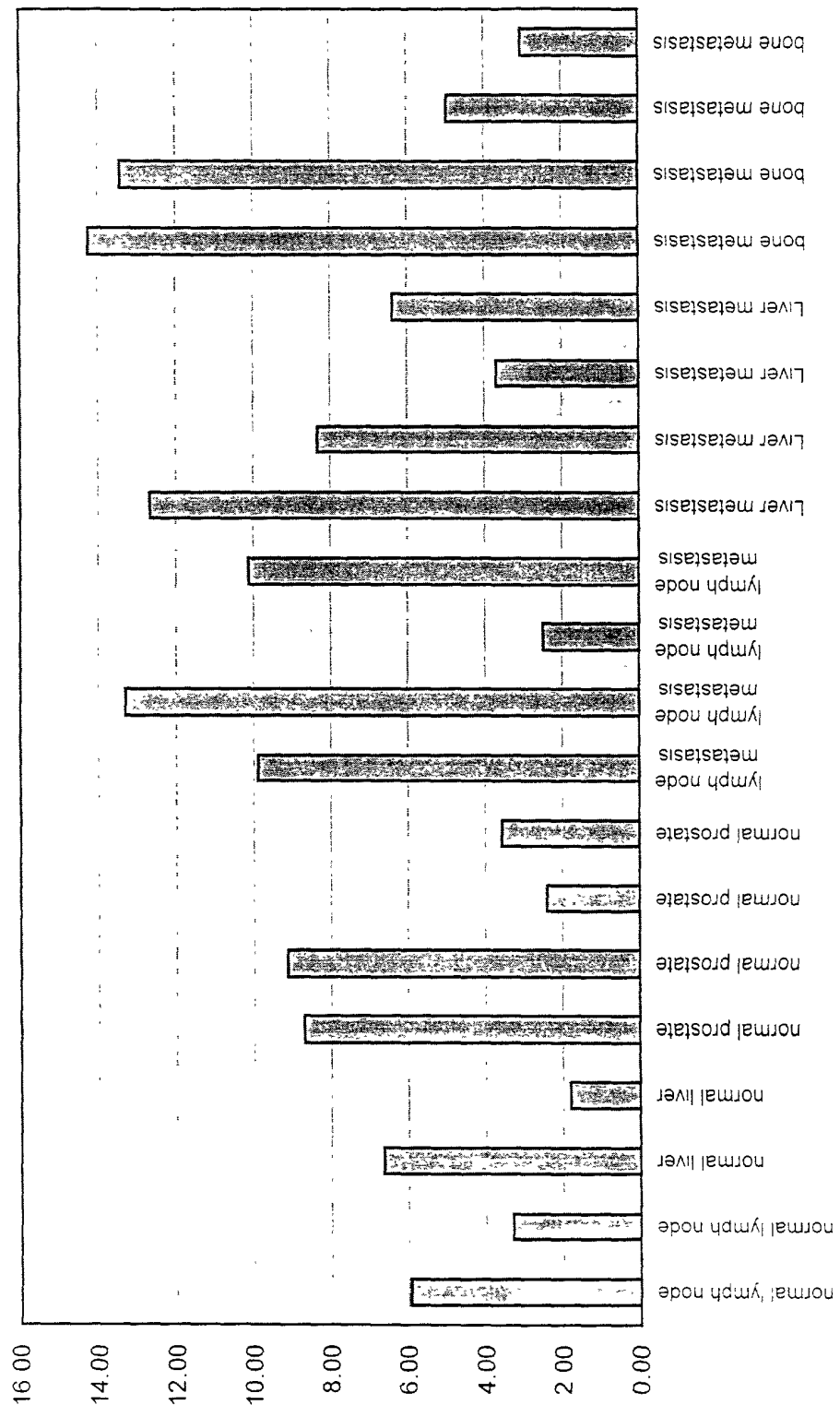FIG. 13
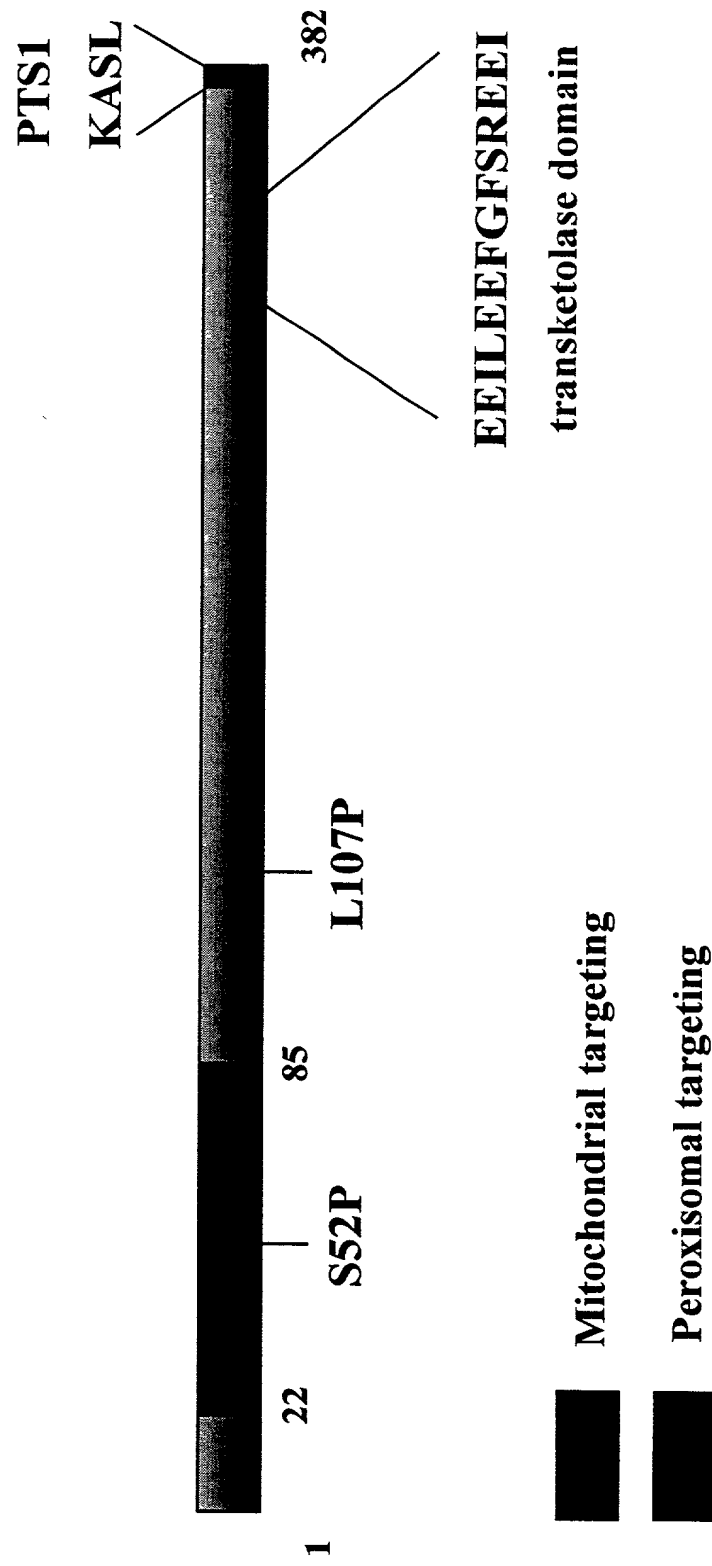
IMAGE clone 136605
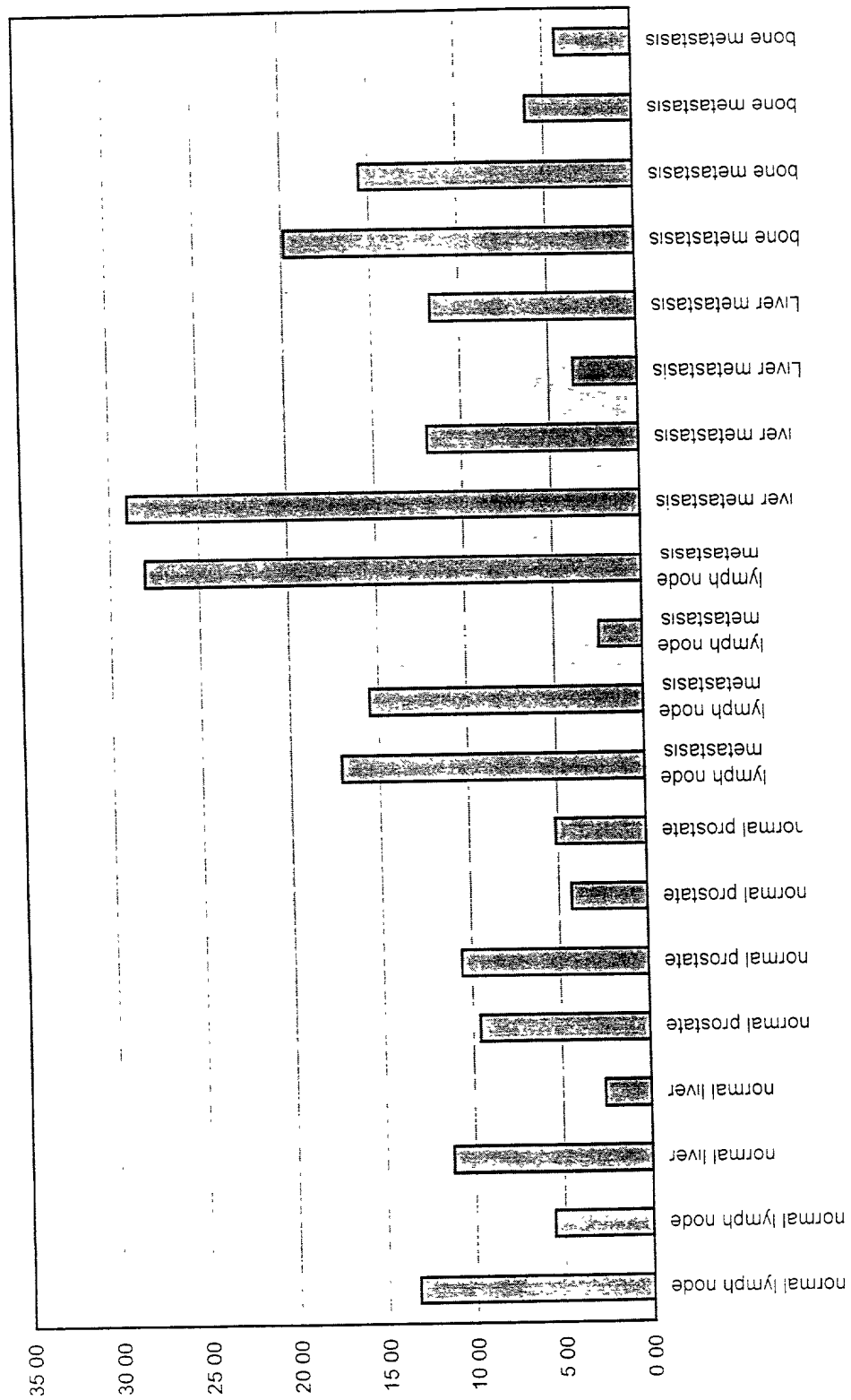
FIG. 14A

IMAGE clone 133130

FIG. 14B

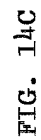IMAGE clone 1034473: MID=44226 alpha-methylacyl-CoA racemase

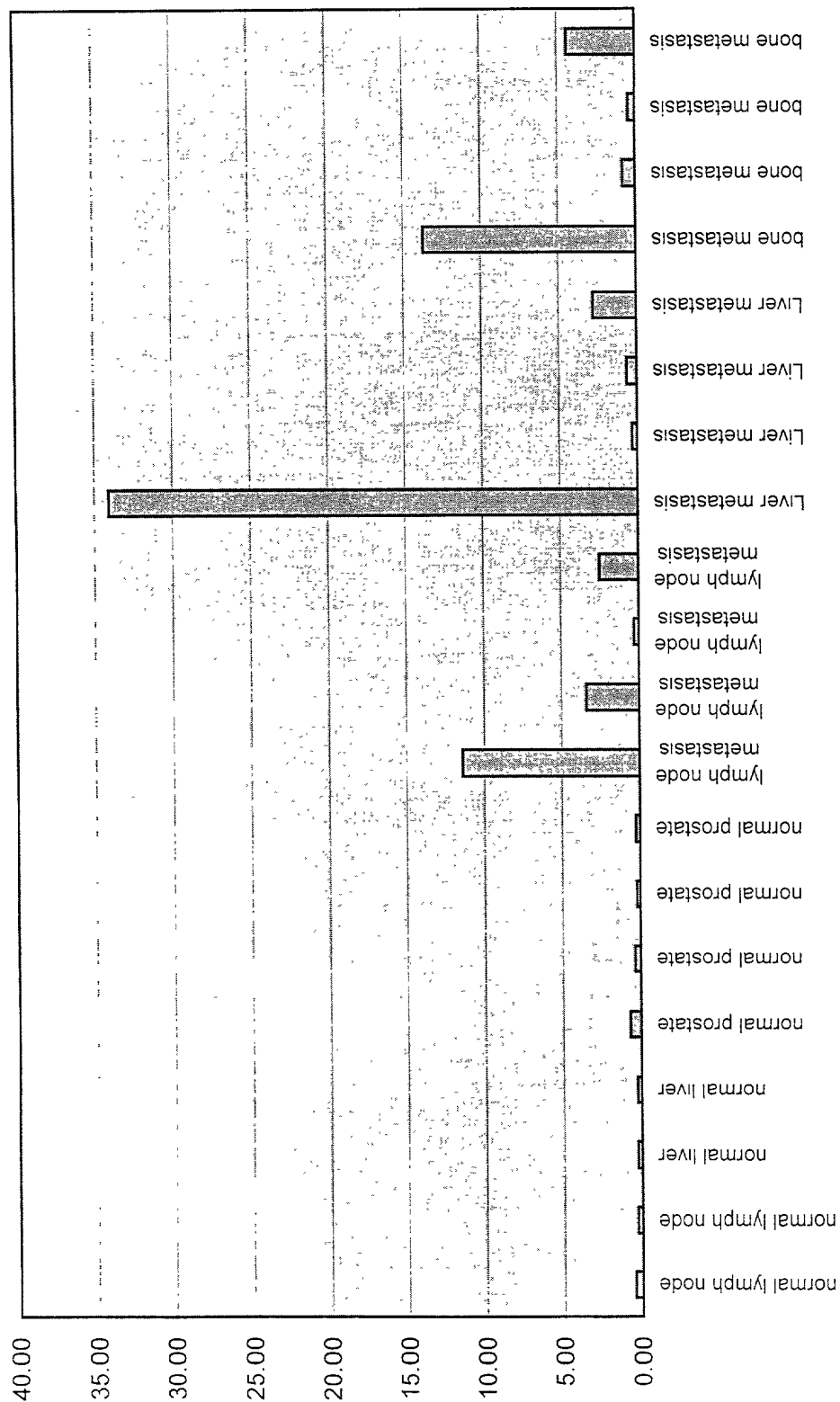FIG. 14C

IMAGE clone 788180: MID=44226 alpha-methylacyl-CoA racemase

FIG. 14D